3D6-063 pc1

ORP-114
(02/02)

ORP - REVIEW COMMENT RECORD (RCR)

1. Date	2. Review No.
04/25/2006	N/A
3. Project No.	4. Page 1 of 2
200-UW-1	

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
WSCF20060178 & W04885-ST	200-UW-1/soil from trench between 216-U-8 & 216-U-12 Cribs	WR Thackaberry	FH QA	E6-35 372-0742

17. Comment Submittal Approval	10. Agreement with indicated comment disposition(s)	11. CLOSED
Organization Manager (optional)	WR Thackaberry Reviewer/Point of Contact 4/26/06 Date Requester	WR Thackaberry Reviewer/Point of Contact 4/26/06 Date Requester

12. Item	13a. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14. Reviewer Concurrence Required	15. Disposition (Provide justification if NOT accepted). Provide separate attachments if necessary.	16. Status
1	60178 Inorganics - Pg 3, section on LCS, paragraphs 3 & 4. Based upon the 3rd sentence in the first paragraph, it appears that silicon and silver results should be flagged UR, not R.		[illegible] lab.	C
2	60178 Inorganics - Pg 4 Major deficiencies, same comment as above.			C
3	60178 Inorganics - Pg 10, Metals Data Qualification Summary, bismuth, silicon & silver should be UR.			C
4	60178 Inorganics - Pg 12, bismuth, silicon & silver should be UR, not J or UJ.			C
5	60178 Inorganics - pgs 13-17, bismuth, silicon & silver should be UR.			C
6	60178 Inorganics - pg 33, section 4, ACCURACY, the answers to the 4th, 5th & 6th questions appear to be erroneous. Should be N/A, Yes, No.			C
7	60178 Inorganics - pg 36, section 8, HOLDING TIME, Validator failed to answer 1st question.			C
8	60178 VOAs - pgs 24-29 are duplicates of pages 18-23.			C
9	60178 VOAs - pg 34, section 7, HOLDING TIMES, Validator failed to answer 1st question.			C
10	60178 SemiVOAs, RadChem, Wet Chem, W04885-ST RadChem - No Comment			

REVIEW COMMENT RECORD (RCR)

1. Date 04/24/06	2. Review No.
3. Project No. 200-UW-1	4. Page 1 of 1

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
Validation Package for SDG WSCF20060178	Trench between 216-U-8 & 216-U-12	RL Weiss	WCH - S&DM	Sigma 1 372-9631

17. Comment Submittal Approval:	10. Agreement with indicated comment disposition(s)	11. Closed
Organization Manager (Optional)	R. L. Weiss 04/24/06 Reviewer/Point of Contract	4-26-06 Reviewer/Point of Contact
Date	R. L. Weiss Date Author/Originator	Date Author/Originator

12. Item	13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14. Reviewer Concurrence Required	15. Disposition (Provide justification if NOT accepted.)	16. Status
1	Inorganics, Page 5: Minor Deficiencies section should also note no MS performed.			OK RL 4-26-06
2	Inorganics, Pages 12, 13, 15, & 16: Results for Bi, Si, & Ag need "R" qualifier applied.			OK RLW 4-26-06
3	Wet Chemistry – No Comments.			
4	Volatiles, Page 10: Hexane is missing from the table (just above THF).			OK RLW 4-26-06
5	Semivolatile , Pages 18 & 21: Diethylphthalate results for B1HVM8 & B1HVN0 need to be corrected to 660.			OK RLW 4-26-06
6	Radiochemistry, Pages 11 &12: Typos. The second listing for Cerium-144 should be Cerium/Praseodymium-144. Pu-238 (aea) result for B1HVM8 should be -0.0088. U-235 (aea) result for B1HVM6 should not be flagged "U".			OK RLW 4-26-06
7	Radiochemistry, Pages 50 & 51 are reversed.			OK RLW 4-26-06

REVIEW COMMENT RECORD (RCR)

1. Date 04/24/06	2. Review No.
3. Project No. 200-UW-1	4. Page 1 of 1

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
Validation Package for SDG W04885	Trench between 216-U-8 & 216-U-12	RL Weiss	WCH - S&DM	Sigma 1 372-9631

17. Comment Submittal Approval:	10. Agreement with indicated comment disposition(s)	11. Closed
Organization Manager (Optional)	R. L. Weiss 04/24/06 Reviewer/Point of Contract	Reviewer/Point of Contact
Date	R. L. Weiss Author/Originator	4-26-06 Date Author/Originator

12. Item	13. Comment(s)/Discrepancy(s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	14. Reviewer Concurrence Required	15. Disposition (Provide justification if NOT accepted.)	16. Status
1	Radiochemistry, Pages 3 & 24: All results missed CRDL.		Comment	

Date: 20 April 2006
To: Fluor Hanford Inc. (technical representative)
From: TechLaw, Inc.
Project: 200-UW-1 Operable Unit, Soil from Trench between 216-U-8 and 216-U-12 Cribs
Subject: Radiochemistry - Data Package No. W04885-ST

INTRODUCTION

This memo presents the results of data validation on Data Package No. W04885 prepared by Severn Trent (ST). A list of samples validated along with the analyses reported and the method of analysis is provided in the following table.

Sample ID	Sample Date	Media	Validation	Date
B1HVM7	3/14/06	Soil	C	See note 1
B1HVM9	3/14/06	Soil	C	See note 1
B1HVN1	3/14/06	Soil	C	See note 1

1 – Selenium-79 by LSC.

Data validation was conducted in accordance with the FHI validation statement of work and the Sampling and Analysis Plan for Support Activities to the 200-UW-1 Operable Unit, DOE/RL-2005-75, Rev. 0. Appendices 1 through 6 provide the following information as indicated below:

Appendix 1. Glossary of Data Reporting Qualifiers
Appendix 2. Summary of Data Qualification
Appendix 3. Qualified Data Summary and Annotated Laboratory Reports
Appendix 4. Laboratory Narrative and Chain-of-Custody Documentation
Appendix 5. Data Validation Supporting Documentation
Appendix 6. Additional Documentation Requested by Client

DATA QUALITY OBJECTIVES

- **Holding Times**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The maximum holding time for radiochemical analysis is 6 months.

All holding times were acceptable.

- **Laboratory (Method) Blanks**

Laboratory Blanks

Blank samples are analyzed to determine if positive results are due to laboratory reagent, sample container, or detector contamination. If blank analysis results indicate the presence of an analyte above the required detection limit (RDL), the following qualifiers are applied: All positive sample results less than five times the highest blank concentration are qualified as estimates and flagged "J"; sample results below the minimum detectable activity (MDA) are qualified as undetected and flagged "U"; sample results above the MDA and greater than five times the highest blank concentration are not qualified.

All laboratory blank results were acceptable.

Field Blanks

No field blanks were submitted for analysis.

- **Accuracy**

Accuracy is evaluated by analyzing distilled water or field samples spiked with known amounts of radionuclides. The sample activity as determined by analysis is compared to the known activity to assess accuracy. The acceptable laboratory control sample (LCS) and matrix spike (MS) recovery range is either 65-135% or 70-130%, depending on the analyte. In addition, samples may be spiked with a radiochemical tracer to assist in isolating the radioisotope of interest with the yield of the tracer being used in calculating sample activity. The acceptable range for tracer recovery is 20% to 105%. Spike sample results outside the above ranges result in associated sample results being qualified as estimates, rejected, or not qualified, depending on the activity of the individual sample.

Due to the lack of an LCS or matrix spike analysis, all selenium-79 results were qualified as estimates and flagged "J".

- **Precision**

Analytical precision is expressed by the relative percent difference (RPD) between the recoveries of duplicate matrix spike analyses performed on a sample. Precision may also be assessed using unspiked duplicate sample analyses. If both sample and replicate activities are greater than five times the contract required detection limit (CRDL) and the RPD is less than +/- 35 percent, the results are acceptable. If either activities are less then five times the CRDL, a control limit of less than or

equal to two times the CRDL is used for soil samples and less than or equal to the CRDL for water samples. If either the original or replicate value is below the CRDL, the applicable control limits are less than or equal to the CRDL for water samples and less than or equal to two times the CRDL for soil samples. If the RPD is outside the applicable control limit, associated results are qualified as estimated detects or estimated non-detects.

All duplicate results were acceptable.

Field Duplicate Samples

No field duplicates were submitted for analysis.

- **Detection Levels**

Reported analytical detection levels are compared against the required target quanitation limits (RTQLs) to ensure that laboratory detection levels meet the required criteria. All analytes exceeded the RTQL. Under the FHI statement of work, no qualification is required.

- **Completeness**

Data package SDG No. W04885 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

MAJOR DEFICIENCIES

None found.

MINOR DEFICIENCIES

Due to the lack of an LCS or matrix spike analysis, all selenium-79 results were qualified as estimates and flagged "J". Data flagged "J" indicates that the associated concentration is an estimate, but under the BHI statement of work, the data may be usable for decision-making purposes. All other validated results are considered accurate within the standard error associated with the methods.

All analytes exceeded the RTQL. Under the FHI statement of work, no qualification is required.

REFERENCES

FHI, Contract #20266, *Validation Statement of Work*, Fluor Hanford Incorporated, July 7, 2003.

DOE/RL-2005-75, Rev. 0, *Sampling and Analysis Plan for Support Activities to the 200-UW-1 Operable Unit*, December 2005.

Appendix 1

Glossary of Data Reporting Qualifiers

Qualifiers which may be applied by data validators in compliance with the FHI statement of work are as follows:

U - Indicates the compound or analyte was analyzed for and not detected above the minimum detectable activity (MDA) in the sample. The value reported is the sample result corrected for sample dilution and moisture content by the laboratory. The data is usable for decision making purposes.

UJ - Indicates the compound or analyte was analyzed for and not detected at concentrations above the minimum detectable activity (MDA) in the sample. Due to a minor QC deficiency identified during the data validation, the associated quantitation limit is an estimate, but is usable for decision making purposes.

J - Indicates the compound or analyte was analyzed for and detected. Due to a minor QC deficiency identified during the data validation, the associated concentration is an estimate, but the data are usable for decision-making purposes.

R - Indicates the compound or analyte was analyzed for, detected, and due to an identified major QC deficiency, the data are unusable.

UR - Indicates the compound or analyte was analyzed for and not detected in the sample. Additionally, the data is unusable due to an identified major QC deficiency.

Appendix 2

Summary of Data Qualification

RADIOCHEMISTRY DATA QUALIFICATION SUMMARY*

SDG: W04885	REVIEWER: TLI	Project: 200-UW-1	PAGE 1 OF 1
COMMENTS:			
COMPOUND	QUALIFIER	SAMPLES AFFECTED	REASON
Selenium-79	J	All	No MS or LCS analysis

* - The Qualified Data Summary Table includes laboratory applied "U" qualifiers not specifically identified here. The laboratory applied "U" qualifiers are included to minimize misinterpretation of results contained in the table.

Appendix 3

Qualified Data Summary and Annotated Laboratory Reports

Project: FLUOR-HANFORD							
Laboratory: ST							
Case	SDG: W04885						
Sample Number		B1HVM7		B1HVM9		B1HVN1	
Remarks							
Sample Date		3/14/06		3/14/06		3/14/06	
Radiochemistry	RTQL	Result	Q	Result	Q	Result	Q
Selenium-79	0.1	-0.218	UJ	0.243	UJ	-0.800	UJ

* - RTQL exceeded

Laboratory applied non-detect qualifiers "U" have been included in this table to minimize potential miss-interpretation of results. All other qualifiers shown were applied during validation.

FORM I

SAMPLE RESULTS

Date: 10-Apr-06

Lab Name: STL Richland | **SDG:** W04885 | **Collection Date:** 3/14/2006 9:50:00 AM

Lot-Sample No.: J6C150127-1 | **Report No. :** 31851 | **Received Date:** 3/14/2006 2:30:00 PM

Client Sample ID: B1HVM7 | **COC No. :** | **Matrix:** SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6074250	RICHRC5043			Work Order: H09EH1AA			Report DB ID: 9H09EH10					
SE-79	-2.18E-01	U J	1.1E+00	1.3E+00	2.68E+00	pCi/g	68%	*-0.08*	4/3/06 10:47 a		1.08	LSC6
						1.28E+00	1.00E+01	*-0.33*			G	

No. of Results: 1 Comments:

R 4/19/06

000011

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

STL RICHLAND

FORM I

SAMPLE RESULTS

Date: 10-Apr-06

Lab Name:	STL Richland	**SDG:**	W04885	**Collection Date:**	3/14/2006 10:10:00 AM
Lot-Sample No.:	J6C150127-2	**Report No. :**	31851	**Received Date:**	3/14/2006 2:30:00 PM
Client Sample ID:	B1HVM9	**COC No. :**		**Matrix:**	SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6074250	RICHRC5043			**Work Order:** H09EN1AA		**Report DB ID:** 9H09EN10						
SE-79	2.43E-01	U J	1.1E+00	1.4E+00	2.67E+00	pCi/g	72%	*0.09*	4/3/06 12:12 p		1.02	LSC6
						1.28E+00	1.00E+01	*0.36*			G	

No. of Results: 1 **Comments:**

000012

4/10/06

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 10-Apr-06

Lab Name:	STL Richland	**SDG:**	W04885	**Collection Date:**	3/14/2006 10:20:00 AM
Lot-Sample No.:	J6C150127-3	**Report No. :**	31851	**Received Date:**	3/14/2006 2:30:00 PM
Client Sample ID:	B1HVN1	**COC No. :**		**Matrix:**	SOIL SOLID

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6074250	RICHRC5043			**Work Order:** H09EP1AA			**Report DB ID:** 9H09EP10					
SE-79	-8.00E-01	U	1.0E+00	1.3E+00	2.62E+00	pCi/g	71%	*-0.31*	4/3/06 12:54 p		1.05	LSC6
						1.25E+00	1.00E+01	*-(1.2)*			G	

No. of Results: 1 **Comments:**

000013

4/14/06

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Appendix 4

Laboratory Narrative and Chain-of-Custody Documentation

Certificate of Analysis

Fluor Hanford
P.O. Box 1000, T6-03
Richland, WA 99352

April 10, 2006

Attention: John Trechter

SAF Number	:	R06-013
Date SDG Closed	:	March 14, 2006
Number of Samples	:	Three (3)
Sample Type	:	Soil
SDG Number	:	W04878
Data Deliverable	:	15 / 30-Day Summary

CASE NARRATIVE

I. Introduction

On March 14, 2006, three soil samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned to lot J6C150127 and assigned the following laboratory ID number to correspond with the Fluor Hanford (FH) specific ID:

FH ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1HVM7	H09EH	SOIL	3/14/06
B1HVM9	H09EN	SOIL	3/14/06
B1HVN1	H09EP	SOIL	3/14/06

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Liquid Scintillation Counting

Selenium-79 by method RICH-RC-5043

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Gas Proportional Counting
Selenium-79 by method RICH-RC-5043
There is currently not an available standard for Selenium 79 and an LCS was not analyzed. The batch blank, sample and sample duplicate (B1HVM7) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Hans Carman
Project Manager

STL RICHLAND

Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		R06-013-001	PAGE 1 OF 1
COLLECTOR: K B Hulse	COMPANY CONTACT: TRECHTER, JE	TELEPHONE NO.: 373-7046	PROJECT COORDINATOR: TRECHTER, JE	PRICE CODE: 9C
SAMPLING LOCATION: 200-UW-1	PROJECT DESIGNATION: 200-UW-1 Operable Unit, Soil from Trench between 216-U-8 and 216-U-12		SAF NO.: R06-013	AIR QUALITY: ☐ DATA TURNAROUND: 15 Days / 15 Days
ICE CHEST NO.	FIELD LOGBOOK NO.	COA: 121595ES20	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
SHIPPED TO: Severn Trent Incorporated, Richland	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

MATRIX*
OL = OTHER LIQUID
OS = OTHER SOLID
S = SOIL
W = WATER

SPECIAL HANDLING AND/OR STORAGE

POSSIBLE SAMPLE HAZARDS/ REMARKS: JOC 150127 WO# 885 Due 3/29/06

SAMPLE NO.	LAB ID	MATRIX*	SAMPLE DATE	SAMPLE TIME	NO./TYPE CONTAINER(S)	ANALYSIS	PRESERVATION
B1HVM7	H09EH	S	3-14-06	0950	1X60mL G/P 23 grams	Selenium-79 {Se-79}	None
B1HVM9	H09EN	S	3-14-06	1010	1X60mL G/P 20.6 grams	Selenium-79 {Se-79}	None
B1HVN1	H09EP	S	3-14-06	1020	1X60mL G/P 24.3 grams	Selenium-79 {Se-79}	None

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
K B Hulse K S Hulse	3-16-06 1430	David HANDISON	3-14-06 1430

SPECIAL INSTRUCTIONS

STL, send copy of chain of custody (COC) to John Trechter within 24 hours of sample receipt.All samples have been taken using the multiple-increment sampling program. This requires the entire sample provided in each bottle to be used in analysis.

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000017

Appendix 5

Data Validation Supporting Documentation

APPENDIX A

RADIOCHEMICAL DATA VALIDATION CHECKLIST

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:	200-UW-1		DATA PACKAGE:	W04985	
VALIDATOR:	TLT	LAB:	ST	DATE:	4/19/06
			SDG:	W04985	

ANALYSES PERFORMED					
Gross Alpha/Beta	Strontium-90	Technetium-99	Alpha Spectroscopy	Gamma Spectroscopy	
Total Uranium	Radium-22	Tritium	SE-79		

SAMPLES/MATRIX			
B1HVM7	B1HVM9	B1HVN1	
			soil

1. Completeness ..... ☐ N/A

Technical verification forms present? ..... Yes (No) N/A

Comments: _____

_____

_____

_____

_____

2. Initial Calibration (Levels D, E) ..... ☒ N/A

Instruments/detectors calibrated? ..... Yes No N/A

Initial calibration acceptable? ..... Yes No N/A

Standards NIST traceable? ..... Yes No N/A

Standards Expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments: _____

_____

_____

_____

3. Continuing Calibration (Levels D, E) ☒ N/A

Calibration checked within required frequency? ..... Yes No N/A

Calibration check acceptable? ..... Yes No N/A

Calibration check standards traceable? ..... Yes No N/A

Calibration check standards expired? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

4. Background Counts (Levels D, E) ..... ☒ N/A

Background Counts checked within required frequency? ..... Yes No N/A

Background Counts acceptable? ..... Yes No N/A

Calculation check acceptable? ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

5. Blanks (Levels B, C, D, E) ..... ☐ N/A

Method blank analyzed within required frequency? ..... Yes No N/A
Method blank results acceptable? ..... Yes No N/A
Analytes detected in method blank? ..... Yes No N/A
Field blank(s) analyzed? ..... Yes No N/A
Field blank results acceptable? ..... Yes No N/A
Analytes detected in field blank(s)? ..... Yes No N/A
Transcription/Calculation Errors? (Levels D, E) ..... Yes No N/A
Comments: no FB

6. Laboratory Control Samples or Blank Spike Samples (Levels C, D, E) ..... ☐ N/A

LCS /BSS analyzed within required frequency? ..... Yes No N/A
LCS/BSS recoveries acceptable? ..... Yes No N/A
LCS/BSS traceable? (Levels D,E) ..... Yes No N/A
LCS/BSS expired? (Levels D,E) ..... Yes No N/A
LCS/BSS levels correct? (Levels D,E) ..... Yes No N/A
Transcription/Calculation Errors? (Levels D, E) ..... Yes No N/A
Comments: no LCS - J all

7. Chemical Carrier Recovery (Levels C, D, E) ..... ☒ N/A

Chemical carrier added? ..... Yes No N/A
Chemical recovery acceptable? ..... Yes No N/A
Chemical carrier traceable? (Levels D, E) ..... Yes No N/A

Chemical carrier expired? (Levels D, E) ..... Yes No N/A

Transcription/Calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

8. Tracer Recovery (Levels C, D, E) ..... ☐ N/A

Tracer added? ..... Yes No N/A

Tracer recovery acceptable? ..... Yes No N/A

Tracer traceable? (Levels D, E) ..... Yes No N/A

Tracer expired? (Levels D, E) ..... Yes No N/A

Transcription/Calculation errors? (Levels D, E) ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

9. Matrix Spikes (Levels C, D, E) ..... ☐ N/A

Matrix spike analyzed? ..... Yes No N/A

Spike recoveries acceptable? ..... Yes No N/A

Spike source traceable? (Levels D, E) ..... Yes No N/A

Spike source expired? Levels D, E) ..... Yes No N/A

Transcription/Calculation Errors? (Levels D, E) ..... Yes No N/A

Comments: no MS - J all

_____

_____

_____

_____

10. Duplicates (Levels C, D, E) ..... ☐ N/A

Duplicates Analyzed at required frequency? ..... Yes No N/A

RPD Values Acceptable? ..... Yes No N/A

Transcription/Calculation Errors? (Levels D, E) ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

11. Field QC Samples (Levels C, D E) ..... ☐ N/A

Field duplicate sample(s) analyzed? ..... Yes No N/A

Field duplicate RPD values acceptable? ..... Yes No N/A

Field split sample(s) analyzed? ..... Yes No N/A

Field split RPD values acceptable? ..... Yes No N/A

Performance audit sample(s) analyzed? ..... Yes No N/A

Performance audit sample results acceptable? ..... Yes No N/A

Comments: no Field QC

_____

_____

_____

_____

12. Holding Times (All levels)

Are sample holding times acceptable? ..... Yes No N/A

Comments: _____

_____

_____

_____

_____

13. Results and Detection Limits (All Levels) ☐ N/A

Results reported for all required sample analyses? (Yes) No N/A

Results supported in raw data?(Levels D, E) Yes No (N/A)

Results Acceptable? (Levels D, E) Yes No (N/A)

Transcription/Calculation errors? (Levels D, E) Yes No (N/A)

MDA's meet required detection limits? Yes (No) N/A

Transcription/calculation errors? (Levels D, E) Yes No (N/A)

Comments: MW over all

Appendix 6

Additional Documentation Requested by Client

FORM II

Date: 10-Apr-06

DUPLICATE RESULTS

Lab Name:	STL Richland	**SDG:**	W04885	**Collection Date:**	3/14/2006 9:50:00 AM
Lot-Sample No.:	J6C150127-1	**Report No. :**	31851	**Received Date:**	3/14/2006 2:30:00 PM
Client Sample ID:	B1HVM7 DUP	**COC No. :**		**Matrix:**	SOIL SOLID

Parameter	Result, Orig Rst	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6074250	RICHRC5043			**Work Order:** H09EH1AC		**Report DB ID:** H09EH1CR			**Orig Sa DB ID:** 9H09EH10			
SE-79	3.86E-01	U	1.1E+00	1.4E+00	2.70E+00	pCi/g	72%	0.14	4/3/06 11:30 a		1.01	LSC6
	-2.18E-01	U	**RPD**	**719.4**		1.00E+01		0.56			G	

No. of Results: 1 **Comments:**

STL Richland
rptSTLRchDupV4.1
5.0 A97

RPD - Relative Percent Difference.
MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 10-Apr-06

Lab Name: STL Richland **SDG:** W04885

Matrix: SOIL **Report No. :** 31851

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Primary Detector
Batch: 6074250	RICHRC5043			**Work Order:**	H09TG1AA	**Report DB ID:**	H09TG1AB					
SE-79	5.38E-01	U	1.9E+00	2.3E+00	4.46E+00	pCi/g	44%	0.12	4/3/06 01:36 p		1.0	LSC6
					2.14E+00	1.00E+01		0.47			G	

No. of Results: 1 **Comments:**

0000027

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.